



# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF ENVIRONMENTAL QUALITY

### VALLEY REGIONAL OFFICE

Molly Joseph Ward  
Secretary of Natural Resources

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David K. Paylor  
Director

Amy Thatcher Owens  
Regional Director

September 9, 2015

Mr. Gary Calleo  
Vice President of Manufacturing  
R. R. Donnelley & Sons Company  
2347 Kratzer Road  
Harrisonburg, Virginia 22802

Location: Rockingham County  
Facility: Harrisonburg Manufacturing North  
Registration No.: 81000

Dear Mr. Calleo:

Attached is a significant modification to your permit to operate R.R. Donnelley & Sons Company, Harrisonburg Manufacturing North, a commercial trade book printing facility pursuant to 9 VAC 5 Chapter 80, Article 1, of the Virginia Regulations for the Control and Abatement of Air Pollution. This permit reflects the combination of emission limits for the Proteus presses 105 – 109, including the three Proteus presses (105 – 107) with a coating unit, and the two Proteus presses without a coating unit (108 – 109), the modification and renaming of Press 767 (to 786), and the removal of Presses 768 and 769. The permit changes have been processed according to the significant modification provisions at 9 VAC 5-80-230.

The permit contains legally enforceable conditions. Failure to comply may result in a Notice of Violation and civil penalty. Please read all permit conditions carefully.

In evaluating the application and arriving at a final decision to issue this permit, the Department deemed the application complete on July 6, 2015 and solicited written public comments by placing a newspaper advertisement in the *Daily News Record* newspaper on July 24, 2015. The thirty-day comment period (provided for in 9 VAC 5-80-270) expired on August 24, 2015.

This permit contains legally enforceable conditions. Failure to comply may result in a Notice of Violation and civil penalty. Please read all conditions carefully.

This approval to operate does not relieve R.R. Donnelley & Sons Company - Harrisonburg Manufacturing North, of the responsibility to comply with all other local, state, and federal permit regulations.

Issuance of this permit is a case decision. The Regulations, at 9 VAC 5-170-200, provide that you may request a formal hearing from this case decision by filing a petition with the Board within 30 days after this permit is mailed or delivered to you. Please consult that and other relevant provisions for additional requirements for such requests.

Additionally, as provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date you actually received this permit or the date on which it was mailed to you, whichever occurred first, within which to initiate an appeal to court by filing a Notice of Appeal with:

Mr. David K. Paylor, Director  
Department of Environmental Quality  
P. O. Box 1105  
Richmond, VA 23218

In the event that you receive this permit by mail, three days are added to the period in which to file an appeal. Please refer to Part Two A of the Rules of the Supreme Court of Virginia, at <http://www.courts.state.va.us/courts/scv/rules.html>, for information on the required content of the Notice of Appeal and for additional requirements governing appeals from decisions of administrative agencies.

If you have any questions concerning this permit, please contact Debbie D. Medlin at 540-574-7809 or via email at [Debbie.Medlin@deq.virginia.gov](mailto:Debbie.Medlin@deq.virginia.gov).

Sincerely,

A handwritten signature in blue ink, appearing to read "B. Keith Fowler", with a long horizontal flourish extending to the left.

B. Keith Fowler  
Deputy Regional Director

Attachment: Permit

c: Director, OAPP (electronic file submission)  
Mary Cate Opila, P.E., U.S. EPA, Region III (electronic file submission)  
David Taylor, DEQ Air Compliance (electronic file submission)



# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF ENVIRONMENTAL QUALITY

### Federal Operating Permit Article 1

This permit is based upon the requirements of Title V of the Federal Clean Air Act and Chapter 80, Article 1 of the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution. Until such time as this permit is reopened and revised, modified, revoked, terminated or expires, the permittee is authorized to operate in accordance with the terms and conditions contained herein. This permit is issued under the authority of Title 10.1, Chapter 13, §10.1-1322 of the Air Pollution Control Law of Virginia. This permit is issued consistent with the Administrative Process Act, and 9 VAC 5-80-50 through 9 VAC 5-80-300 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution of the Commonwealth of Virginia.

Authorization to operate a Stationary Source of Air Pollution as described in this permit is hereby granted to:

Permittee Name:	R. R. Donnelley & Sons Company
Facility Name:	R. R. Donnelley & Sons Company - Harrisonburg Manufacturing North
Facility Location:	2347 Kratzer Road Harrisonburg, Virginia
Registration Number:	81000

Permit Number  
VRO81000

Effective Date  
September 28, 2011

Expiration Date  
September 27, 2016

Significant Modification Date: \_\_\_\_\_

9/9/15

  
Deputy Regional Director

9/9/15  
Signature Date

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## **Facility Information**

### **Permittee**

R. R. Donnelley & Sons Company  
2347 Kratzer Road  
Harrisonburg, Virginia 22802

### **Responsible Official**

Gary Calleo  
Vice President, Manufacturing

### **Facility**

R. R. Donnelley & Sons Company - Harrisonburg Manufacturing North  
2347 Kratzer Road  
Harrisonburg, Virginia 22802

### **Contact person**

Justin Rogers  
EHS Professional  
(540) 564-9548

### **Facility Description:** NAICS Code 323117 - Book printing

R. R. Donnelley & Sons Company (RRD) produces hard- and soft-cover commercial trade books using offset lithographic printing. The facility operates fourteen heatset lithographic offset printing presses, one sheetfed (coldset) offset lithographic printing press, three ink-jet digital printing presses with coating units, two ink-jet digital printing presses without coating units, two pneumatic trim scrap systems, and a waste paper dust collection system. The facility also includes binding lines and adhesive operations in support of its printing process. In the binding area, printed materials are assembled, bound into book blocks, and then further processed into hard- and soft-cover books. Edge trimming and roughing and adhesive application are conducted at the binding lines. Volatile organic compound (VOC) emissions result primarily from evaporation of solvent in the inks, fountain solutions, and cleaning solvents. Particulate emissions are generated by the handling of paper trim and dust generated at the binding lines. Adhesive application at the binding lines is an additional source of VOC emissions.

The facility is a Title V major source of VOC and HAPs (glycol ethers, which are also VOCs). This source is located in an attainment area for all pollutants, and is a PSD minor source. The facility was previously permitted under a Minor NSR Permit issued on January 5, 2014, as amended on August 5, 2014 and March 26, 2015.

## Emission Units

Equipment to be operated consists of:

**Table I. Emission Units - R. R. Donnelley & Sons - Harrisonburg Manufacturing North**

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
<b>Sheetfed Offset Printing Equipment</b>							
751	51A, B, and C	1989 Heidelberg 72FL sheetfed offset printing press	11,000 impressions per hour	none	-	-	1/5/12 as amended 8/5/14 and 3/26/15
<b>Web Offset Printing Equipment</b>							
765	65	1995 Toshiba OA two-web offset printing press	38,000 impressions per hour (maximum impression size 34" x 19.375")	none	-	-	1/5/12 as amended 8/5/14 and 3/26/15
766	66	1996 Toshiba OA two-web offset printing press	38,000 impressions per hour (maximum impression size 34" x 19.375")	none	-	-	1/5/12 as amended 8/5/14 and 3/26/15

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
770	70	1985 Toshiba OA two-web offset printing press	36,000 impressions per hour (maximum impression size 34" x 38.75")	Regenerative Thermal Oxidizer	RTO1	VOC	1/5/12 as amended 8/5/14 and 3/26/15
771	71	1985 Toshiba OA one-web offset printing press	36,000 impressions per hour (maximum impression size 34" x 38.75")	none	-	-	1/5/12 as amended 8/5/14 and 3/26/15
772	72	1989 Toshiba OA two-web offset printing press	36,000 impressions per hour (maximum impression size 34" x 38.75")	Regenerative Thermal Oxidizer	RTO1	VOC	1/5/12 as amended 8/5/14 and 3/26/15
773	73	1994 Toshiba OA two-web offset printing press	36,000 impressions per hour (maximum impression size 34" x 38.75")	none	-	-	1/5/12 as amended 8/5/14 and 3/26/15

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
782	82	1983 Harris M110 two-web offset printing press	38,000 impressions per hour (maximum impression size 26.5" x 17.75")	none	-	-	1/5/12 as amended 8/5/14 and 3/26/15
783	83	2003 Harris M110B two-web offset printing press	36,000 impressions per hour (maximum impression size 26.5" x 17.75")	none	-	-	1/5/12 as amended 8/5/14 and 3/26/15
784	84	1993 Harris M110B two-web offset printing press	36,000 impressions per hour (maximum impression size 26.5" x 17.75")	none	-	-	1/5/12 as amended 8/5/14 and 3/26/15
785	85	1992 Harris M110B two-web offset printing press	36,000 impressions per hour (maximum impression size 26.5" x 17.75")	none	-	-	1/5/12 as amended 8/5/14 and 3/26/15



Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
786	86	Harris Graphics M110A printing press	36,000 impressions per hour (maximum impression size 26.5" x 17.5")	none	-	-	1/5/12 as amended 8/5/14 and 3/26/15
787	87	1983 Harris M110B two-web offset printing press	36,000 impressions per hour (maximum impression size 26.5" x 17.75")	none	-	-	1/5/12 as amended 8/5/14 and 3/26/15
790	90	2005 Timson T48A one-web offset printing press	31,400 impressions/hr	none	-	-	1/5/12 as amended 8/5/14 and 3/26/15
791	91	2007 Timson T48A one-web offset printing press	37,000 impressions/hr	none	-	-	1/5/12 as amended 8/5/14 and 3/26/15
<b>Ink-Jet Digital Printing Equipment</b>							
105		Ink-Jet Digital Printing Press with coating unit – Model 6034988 (2010)	526,620 pages per hour 2.52 gallons of ink per hour 2.20 gallons of coating per hour	none	-	-	1/5/12 as amended 8/5/14 and 3/26/15

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
106		Ink-Jet Digital Printing Press with coating unit – Model 6034988 (2010)	526,620 pages per hour, 2.52 gallons of ink per hour, 2.20 gallons of coating per hour	none	-	-	1/5/12 as amended 8/5/14 and 3/26/15
107		Ink-Jet Digital Printing Press with coating unit – Model 6034988 (2010)	526,620 pages per hour 2.52 gallons of ink per hour 2.20 gallons of coating per hour	none	-	-	1/5/12 as amended 8/5/14 and 3/26/15
108		Proteus Ink-Jet Digital Printing Press Model 6038475	52,346 documents per hour 4.05 gallons of ink per hour	none	-	-	1/5/12 as amended 8/5/14 and 3/26/15
109		Proteus Ink-Jet Digital Printing Press Model 6038475	52,346 documents per hour 4.05 gallons of ink per hour	none	-	-	1/5/12 as amended 8/5/14 and 3/26/15

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
<b>Paper and Dust Handling Systems</b>							
PTS-1	C1, C2, C3, C4	Pneumatic trim scrap system (C1 – C3, 1980; C4, 2001)	15 tons/hr	none	-	-	1/5/12 as amended 8/5/14 and 3/26/15
PTS-2	C5	Pneumatic trim scrap system (C5, 2010)	15 tons/hr	none	-	-	1/5/12 as amended 8/5/14 and 3/26/15
WPD	BH1 BH2	Waste paper dust collection system (BH1, 1980; BH2, 2001)	--	Baghouse	BH1 & BH2	TSP, PM-10	1/5/12 as amended 8/5/14 and 3/26/15
<b>Adhesive Operations</b>							
ADH	-	Binding line adhesive application (1980)	-	none	-	-	1/5/12 as amended 8/5/14 and 3/26/15
<b>Emergency Generators</b>							
EG-1	-	Waukesha 120 kW emergency generator with spark ignition engine	175 hp	none	-	-	RICE MACT

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
EG-2	-	Onan 80 kW emergency generator with spark ignition engine	144 hp	none	-	-	RICE MACT

\*The Size/Rated capacity is provided for informational purposes only and is not an applicable requirement.

**Sheetfed Offset Printing Press - Emission Unit 751**

1. **Limitations** - The throughput of VOC in inks, fountain solutions, and cleaning solvents in Press 751 shall not exceed the following limits (tons per year):

Process	Ink VOC	Fountain solution VOC	Blanket Wash / Cleaning solvent VOC
Press 751	17.1		7.9

Throughput shall be calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently-completed calendar month to the individual monthly totals for the preceding 11 months.

(9 VAC 5-80-110 and Condition 17 of 1/5/12 permit, as amended 8/5/14 and 3/26/15)

2. **Limitations** – VOC emissions from the operation and cleaning of Press 751 shall be limited to 21.0 tons per year. Annual emissions shall be calculated monthly as the sum of the previous consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently-completed calendar month to the individual monthly totals for the preceding 11 months. Compliance with this emission limit may be determined as stated in Condition 1.

(9 VAC 5-80-110 and Condition 23 of 1/5/12 permit, as amended 8/5/14 and 3/26/15)

3. **Limitations** – VOC emission controls from cleanup, washup, and disposal shall include the following, or equivalent, as a minimum:
- VOC shall not be intentionally spilled, discarded to sewers, stored in open containers, or handled in any other manner that would result in evaporation beyond that consistent with air pollution control practices for minimizing emissions.
  - All VOC containing receptacles shall be closed at all times except during loading and unloading.
  - VOC emissions from the disposal of fountain solutions, cleaning solutions, and other products containing more than 25 percent by weight shall be reduced by reclamation or incineration.
  - VOC emissions shall be reduced by storing cleaning solutions and applicators in covered containers or machines with remote reservoirs when not in use.

- e. VOC emissions from the use of blanket wash shall be controlled by limiting the daily average of the VOC portion of the cleaning solution to a composite vapor pressure of 10 mm Hg or less at 68 °F. Composite vapor pressure shall be determined as stated in 9 VAC 5-40-7810 C.

(9 VAC 5-80-110, 9 VAC 5-50-20 F and Condition 9 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

4. **Limitations** – Visible emissions from the Press 751 shall not exceed five percent opacity as determined by 40 CFR 60, Appendix A, Method 9.

(9 VAC 5-80-110, 9 VAC 5-20-20, and Condition 27 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

5. **Monitoring and Recordkeeping** – The permittee shall determine compliance with the emission limit established in Condition 2 by calculating the monthly VOC emissions as follows:

$$E_{VOC} = \sum_{i=1}^n [(I_{VOC,i} \times 0.05) + FS_{VOC,i} + (BW_{VOC,i} \times 0.50)]$$

Where

$E_{VOC}$  = VOC emissions in tons per month  
 $I_{VOC}$  = Monthly throughput of VOC contained in ink, as applied (tons)  
 $FS_{VOC}$  = Monthly throughput of VOC contained in fountain solution (tons)  
 $BW_{VOC}$  = Monthly throughput of VOC contained in blanket wash (tons)  
 $i$  = Each ink, fountain solution, or blanket wash

(9 VAC 5-80-110)

6. **Monitoring and Recordkeeping** – Except as indicated in Condition 7, for the purpose of calculating emissions, the VOC content of each coating as supplied shall be based on formulation data as shown on its Material Safety Data Sheet (MSDS). If VOC content is given as a range, the maximum value shall be used.

(9 VAC 5-80-110)

7. **Monitoring and Recordkeeping** – If the monthly calculation indicates the annual VOC emissions from any individual ink, fountain solution, coating, or other material are equal to or greater than 10 percent of the limit in Condition 2 and no CPDS (Certified Product Data Sheet) has been provided for that material, the VOC content of each such material shall be determined annually using Reference Method 24 (40 CFR 60, Appendix A) and such content shall be used in calculating emissions. As used herein, a CPDS means documentation, furnished by a material supplier, providing the VOC content of the material, by weight, measured using Reference Method 24. If a MSDS indicates a material contains 100 percent

VOC, it shall be acceptable to use this value and the material density from the MSDS for emissions calculations in lieu of testing. One-fourth of the subject materials used shall be tested each quarter so that all subject materials are tested once per year. Testing shall be conducted, by the permittee or the supplier, for each product formulation received after such emissions level is determined. Each subject material shipment received shall be clearly identified by a product formulation number that may be correlated to Method 24 test results. The most recent test results for each formulation shall be used in emission calculations. Quarterly testing may be discontinued after actual annual VOC emissions from individual subject inks, fountain solutions, coatings or other materials are below 10 percent of the limit in Condition 2 for three consecutive months. If quarterly testing is discontinued, the VOC content determined in the latest test for each formulation shall be used in lieu of the MSDS value in emission calculations.

(9 VAC 5-80-110)

8. **Monitoring and Recordkeeping** – The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the DEQ. These records shall include, but are not limited to:
- a. Monthly and annual material balance of VOC used at the sheetfed press (751) to include:
    - (1) Throughput of VOC (in tons) in each of the following: inks, fountain solutions, and cleaning solvents; and
    - (2) Throughput of VOC (in tons) disposed of offsite.
  - b. Monthly and annual VOC emissions (in tons) for the sheetfed press (751).
  - c. MSDS, Reference Method 24 test results, or other vendor information showing VOC content, toxic compound content, water content, and solids content for each ink, thinner, fountain solution, and cleaning solvent used.
  - d. Results of all stack tests and visible emission evaluations.
  - e. Scheduled and unscheduled maintenance, and operator training.
  - f. EPA Method 24 (40 CFR 60, Appendix A) results (or certification of such by the supplier) showing the VOC content for each ink, fountain solution, blanket wash, and cleaning solvent used, as supplied, for which this information is required by Condition 7.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five years.

(9 VAC 5-80-110, 9 VAC 5-50-50, and Condition 30 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

9. **Testing** – The permitted facility shall be constructed so as to allow for emissions testing upon reasonable notice at any time, using appropriate methods. This includes constructing the facility such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and providing stack or duct that is free from cyclonic flow. Sampling ports shall be provided when requested at the appropriate locations and safe sampling platforms and access shall be provided.  
(9 VAC 5-80-110, 9 VAC 5-50-30, and Condition 31 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

10. **Testing** – If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the appropriate method(s) in accordance with procedures approved by the DEQ.  
(9 VAC 5-80-110)



## Web Offset Printing Presses - Emission Units 765-766, 770-773, 782-787, 790, and 791

11. **Limitations** - The throughput of VOC in inks, fountain solutions, and cleaning solvents in the following presses shall not exceed the following limits (tons per year):

Process	Ink VOC	Fountain solution VOC	Blanket Wash / Cleaning solvent VOC
Press 783	5.4	0.5	0.67
Press 786	6.3	0.3	0.7

Throughput shall be calculated monthly as the sum of each consecutive 12-month period. Compliance shall be determined monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

(9 VAC 5-80-110 and Condition 17 of 1/5/12 permit, as amended 8/5/14 and 3/26/15)

12. **Limitations** - The throughput of VOC (tons per year) in inks, fountain solutions and cleaning solvents to Presses 765-766, 770-773, 782, 784-785, 787, 790, and 791 shall not exceed that allowed by the following formula:

$$x_u(0.80) + (x_c)(0.80)\left(1 - \frac{\varepsilon}{100}\right) + y_u + y_c\left[0.30 + 0.70\left(1 - \frac{\varepsilon}{100}\right)\right] + 0.50z_m + z_{au} \leq 69.5$$

where  $x_u$  = VOC (tons) in inks used in uncontrolled presses (Presses 765-766, 771, 773, 782, 784-785, 787, 790 and 791)

$x_c$  = VOC (tons) in inks used in controlled presses (Presses 770 and 772)

$\varepsilon$  = RTO destruction efficiency (percent) as determined in testing of RTO according to Condition 32

$y_u$  = VOC (tons) in fountain solution used in uncontrolled presses (Presses 765-766, 771, 773, 782, 784-785, 787, 790 and 791)

$y_c$  = VOC (tons) in fountain solution used in controlled presses (Presses 770 and 772)

$z_m$  = VOC (tons) in manual blanket wash/cleaning solvent used in uncontrolled presses (Presses 765-766, 771, 773, 782, 784-785, 787 and 790) and in controlled presses (Presses 770 and 772)

$z_{au}$  = VOC (tons) in automatic blanket wash/cleaning solvent used in uncontrolled presses

Throughput shall be calculated monthly as the sum of each consecutive 12-month period.

(9 VAC 5-80-110 and Condition 18 of 1/5/12 permit, as amended 8/5/14 and 3/26/15)

13. **Limitations** - VOC emissions from all web offset presses (Presses 765-766, 770-773, 782-787, 790, and 791) shall be controlled by using a fountain solution containing alcohol substitutes and limiting the VOC content of the fountain solution to no more than a daily average of five percent by weight.  
(9 VAC 5-80-110 and Condition 2 of 1/5/12 permit, as amended 8/5/14 and 3/26/15)
14. **Limitations** - VOC emissions from Presses 765-766, 770-773, 782, 784-785, 787, 790, and 791 shall be controlled by the use of inks having VOC content of not more than 32 percent by weight, as applied, calculated as a monthly average.  
(9 VAC 5-80-110 and Condition 3 of 1/5/12 permit, as amended 8/5/14 and 3/26/15)
15. **Limitations** - VOC emissions from Presses 783 and 786 shall be controlled by the use of inks having VOC content of not more than 28 percent by weight, as applied.  
(9 VAC 5-80-110 and Condition 4 of 1/5/12 permit, as amended 8/5/14 and 3/26/15)
16. **Limitations** - For all printing presses (Presses 765 - 766, 770 - 773, 782 - 787, 790, and 791), VOC emissions controls from cleanup, washup, and disposal shall include the following, or equivalent, as a minimum:
  - a. VOC shall not be intentionally spilled, discarded to sewers, stored in open containers, or handled in any other manner that would result in evaporation beyond that consistent with air pollution control practices for minimizing emissions.
  - b. All VOC containing receptacles shall be closed at all times except during loading and unloading.
  - c. VOC emissions from the disposal of fountain solutions, cleaning solutions, and other products containing more than 25 percent by weight shall be reduced by reclamation or incineration.
  - d. VOC emissions shall be reduced by storing cleaning solutions and applicators in covered containers or machines with remote reservoirs when not in use.
  - e. VOC emissions from the use of blanket wash shall be controlled by limiting the daily average of the VOC portion of the cleaning solution to a composite vapor pressure of 10 mm Hg or less at 68 °F. Composite vapor pressure shall be determined as stated in 9 VAC 5-40-7810 C.  
(9 VAC 5-80-110, 9 VAC 5-50-20 F, and Condition 9 of 1/5/12 permit, as amended 8/5/14 and 3/26/15)
17. **Limitations** – Visible emissions from the following operations shall not exceed the percentage opacity indicated in the table below, as determined by 40 CFR 60, Appendix A, Method 9. The limits shall apply at all times except for noted exclusions.

Process	% Opacity	Exclusions
Heatset Presses 765-766, 770-773, 782 - 787, 790, and 791	10	None
Heatset Presses 770 and 772 (before installation of the RTO)	10	None
Heatset Presses 770 and 772 (after installation of the RTO)	5	None

(9 VAC 5-80-110 and Condition 27 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

18. **Limitations** – VOC emissions from Presses 770 and 772 shall be controlled by the RTO. The RTO shall be provided with adequate access for inspection and shall be in operation when either Press 770 or 772 is operating.

(9 VAC 5-80-110 and Condition 8 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

19. **Limitations** – The RTO shall maintain a destruction efficiency for VOC emissions of no less than 95.0 percent, on a mass basis.

(9 VAC 5-80-110 and Condition 11 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

20. **Limitations** – The RTO shall maintain a minimum combustion chamber temperature equal to or higher than that determined during the most recent performance testing required by Condition 32 and a retention time of at least 0.80 seconds. The minimum combustion zone temperature shall be calculated as a three-hour average.

(9 VAC 5-80-110 and Condition 12 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

21. **Limitations** – VOC emissions from the operation and cleaning of the following equipment shall be limited as specified below:

Process	Emissions (tons/year)
Press 783	5.2
Press 786	5.7
Presses 765 - 766, 770 - 773, 782, 784-785, 787, 790, and 791	69.5

Annual emissions shall be calculated monthly as the sum of the previous consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

(9 VAC 5-80-110 and Condition 23 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

22. **Limitations** – The approved fuels for the heatset printing presses (Presses 765-766, 770-773, 782-787, 790, and 791) are natural gas and propane. A change in fuels may require a permit to modify and operate.

(9 VAC 5-80-110 and Condition 15 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

23. **Limitations** – The approved fuels for the RTO are natural gas and propane. A change in fuels may require a permit to modify and operate.

(9 VAC 5-80-110 and Condition 16 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

24. **Monitoring** – The permittee shall perform weekly inspections of the heatset web printing press stacks (Stack #s 65 – 66, 70 – 73, 82 – 87, 90, and 91) to determine the presence of visible emissions. If during the inspection visible emissions are observed, an EPA Method 9 visible emission evaluation (VEE) shall be conducted. The VEE shall be conducted for a minimum period of six minutes. If any of the observations exceed the applicable opacity limit, the observation period shall continue until 60 minutes of observation has been completed. If the applicable opacity limit was exceeded, timely corrective action shall be taken.

(9 VAC 5-80-110)

25. **Monitoring** – The permittee shall determine compliance with the emission limits established in Condition 21 by calculating the monthly VOC emissions for Presses 783 and 786 (each individually), and Presses 765-766, 770-773, 782, 784-785, 787, 790, and 791 (combined), as follows:

$$E_{VOC} = \sum_{i=1}^n \left[ \begin{aligned} &0.80I_{uVOC,i} + 0.80I_{cVOC,i} \left( 1 - \frac{\varepsilon}{100} \right) \\ &+ FS_{uVOC,i} + \left( 0.30 + 0.70 \left( 1 - \frac{\varepsilon}{100} \right) \right) FS_{cVOC,i} \\ &+ 0.50CS_{mVOC,i} + CS_{auVOC,i} + \left( 0.60 + 0.40 \left( 1 - \frac{\varepsilon}{100} \right) \right) CS_{acVOC,i} \end{aligned} \right]$$

Where:

- $E_{VOC}$  = VOC emissions in tons per month  
 $I_{uVOC}$  = Monthly throughput of VOC contained in ink, as applied (tons) in uncontrolled presses  
 $I_{cVOC}$  = Monthly throughput of VOC contained in ink, as applied (tons) in controlled presses  
 $\varepsilon$  = RTO destruction efficiency (percent) as determined in the most recent DEQ-approved testing of RTO  
 $FS_{uVOC}$  = Monthly throughput of VOC contained in fountain solution (tons) in uncontrolled presses

$FS_{eVOC}$  = Monthly throughput of VOC contained in fountain solution (tons) in controlled presses  
 $CS_{mVOC}$  = Monthly throughput of VOC contained in manual blanket wash/cleaning solvent (tons)  
 $CS_{auVOC}$  = Monthly throughput of VOC contained in automatic blanket wash/cleaning solvent (tons) in uncontrolled presses  
 $CS_{acVOC}$  = Monthly throughput of VOC contained in automatic blanket wash/cleaning solvent (tons) in controlled presses  
i = Each ink, fountain solution, or cleaning solvent used

(9 VAC 5-80-110)

26. **Monitoring** – Except as indicated in Conditions 27 and 28, for the purpose of calculating emissions, the VOC content of each ink as supplied shall be based on formulation data as shown on its MSDS. If VOC content is given as a range, the maximum value shall be used.

(9 VAC 5-80-110)

27. **Monitoring** – For the inks used in all presses (Presses 765-766, 770 - 773, 782 - 787, 790, and 791), if an MSDS indicates that the VOC content is greater than 50 percent of the applicable limits in Conditions 14 and 15, the VOC content shall be determined by a certified product data sheet (CPDS) or by Reference Method 24 testing (40 CFR 60, Appendix A).

(9 VAC 5-80-110)

28. **Monitoring** – If the monthly calculation indicates the annual VOC emissions from any individual ink, fountain solution, coating, or other material are equal to or greater than 10 percent of the limits in Condition 21 and no CPDS (as defined in Condition 7) has been provided for that material, the VOC content of each such material shall be determined annually using Reference Method 24 (40 CFR 60, Appendix A) and such content shall be used in calculating emissions. If a MSDS indicates a material contains 100 percent VOC, it shall be acceptable to use this value and the material density from the MSDS for emissions calculations in lieu of testing. One-fourth of the subject materials used shall be tested each quarter so that all subject materials are tested once per year. Testing shall be conducted, by the permittee or the supplier, for each product formulation received after such emissions level is determined. Each subject material shipment received shall be clearly identified by a product formulation number that may be correlated to Method 24 test results. The most recent test results for each formulation shall be used in emission calculations. Quarterly testing may be discontinued after actual annual VOC emissions from individual subject inks, fountain solutions, coatings or other materials are below 10 percent of the limits in Condition 21 for three consecutive months. If quarterly testing is discontinued, the VOC content determined in the latest test for each formulation shall be used in lieu of the MSDS value in emission calculations.

(9 VAC 5-80-110)

29. **Monitoring** – The RTO shall be equipped with devices to continuously measure and record the combustion chamber temperatures. Each monitoring device shall be installed,

maintained, calibrated and operated in accordance with approved procedures which shall include, at a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the RTO is operating.

(9 VAC 5-80-110 and Condition 13 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

30. **Recordkeeping** – The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the DEQ. These records shall include, but are not limited to:

- a. Except as noted in b, monthly and annual material balance of VOC used at Presses 783 and 786 (each individually), and Presses 765-766, 770-773, 782, 784-785, 787, 790, and 791 (as a sum for the group), to include:
  - (1) Throughput of VOC in each of the following: inks, fountain solutions, and cleaning solvents; and
  - (2) Throughput of VOC disposed of offsite.
- b. The monthly and annual throughput of VOC in inks, in fountain solutions, in manual blanket wash, in automatic blanket wash and in other cleaning solvents shall each be recorded for Presses 770 and 772 (combined) and at Presses 765-766, 771, 773, 782, 784-785, 787, 790, and 791 (as a sum for the group).
- c. Monthly calculations of VOC throughput according to the formula in Condition 12.
- d. Monthly and annual VOC emissions (in tons) for Press 783 and 786 (each individually), and Presses 765-766, 770-773, 782, 784-785, 787, 790, and 791 (as a group total) according to the formula in Condition 25.
- e. MSDS, Reference Method 24 test results, or other vendor information showing VOC content, toxic compound content, water content, and solids content for each ink, thinner, fountain solution, manual blanket wash, automatic blanket wash, and other cleaning solvents used.
- f. VOC content of inks used in Presses 765 - 766, 770 - 773, 782, 784 - 785, 787, 790, and 791 in percent by weight as applied, calculated each month as a monthly average for the group.
- g. VOC composite partial vapor pressure of each blanket wash and cleaning solvent.
- h. VOC content of fountain solutions (as a weight percent), calculated as a daily average, based on the VOC content given on the MSDS or CPDS (as defined in Condition 7), if available, for each fountain solution.

- i. Annual consumption of natural gas and propane for the RTO calculated monthly as the sum of each consecutive 12-month period.
- j. Operation and combustion temperature monitoring records for the RTO.
- k. EPA Method 24 (40 CFR 60, Appendix A) results (or certification of such by the supplier) showing the VOC content for each ink, fountain solution, blanket wash, and cleaning solvent used, as supplied, for which this information is required by Conditions 27 and 28.
- l. Results from weekly inspections of printing press stacks (Stack #s 65 – 66, 70 – 73, and 82 – 87, 90, and 91), to include:
  - (1) The date, times, and name of person performing each inspection.
  - (2) Whether or not visible emissions were observed.
  - (3) EPA Method 9 (40 CFR Part 60, Appendix A) observation record, if applicable.
  - (4) Description of corrective action taken, if applicable.
- m. Results of all stack tests and VEEs, including those required by Condition 24.
- n. Scheduled and unscheduled maintenance, and operator training.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five years.

(9 VAC 5-80-110 and Condition 30 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

31. **Recordkeeping** – The permittee shall maintain records of the occurrence and duration of any bypass, malfunction, shutdown or failure of the facility or its associated air pollution control equipment that results in excess emissions for more than one hour. Records shall include the date, time, duration, description (emission unit, pollutant affected, cause), corrective action, preventive measures taken and name of person generating the record.

(9 VAC 5-80-110 and Condition 35 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

32. **Testing** – During the term of this permit, performance tests shall be conducted at least once for VOC from the RTO serving Presses 770 and 772 to demonstrate compliance with the destruction efficiency requirements contained in Condition 19. The results of the performance tests shall be used to establish appropriate operating parameter ranges for the thermal oxidizer, including the minimum combustion zone temperature necessary to achieve the destruction efficiency contained in Condition 19. Upon approval by DEQ, appropriate parameters based upon performance testing, to include minimum combustion zone temperature, shall be incorporated into Condition 20 by reference. Tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30 and the test methods and procedures contained in 40 CFR 60, Appendix A. The details of the tests are to be arranged

with the DEQ. The permittee shall submit a test protocol at least 30 days prior to testing. Two copies of the test results shall be submitted to the DEQ, within 45 days after test completion and shall conform to the test report format enclosed with this permit.

(9 VAC 5-80-110)

33. **Testing** – Upon request by the DEQ, the permittee shall conduct additional performance tests for VOC from the RTO serving Presses 770 and 772 to demonstrate compliance with the destruction efficiency contained in Condition 19. The details of the test shall be arranged with the DEQ.

(9 VAC 5-80-110 and Condition 28 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

34. **Testing** – Upon request by the DEQ, the permittee shall conduct additional visible emission evaluations from the heatset presses (Presses 765-766, 770-773, 782 - 787, 790, and 791) to demonstrate compliance with the visible emission limits contained in this permit. The details of the tests shall be arranged with the DEQ.

(9 VAC 5-80-110 and Condition 29 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

35. **Testing** – The permitted facility shall be constructed so as to allow for emissions testing upon reasonable notice at any time, using appropriate methods. This includes constructing the facility such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and providing stack or duct that is free from cyclonic flow. Sampling ports, safe sampling platforms, and access at the appropriate locations shall be provided when requested.

(9 VAC 5-50-30, 9 VAC 5-80-110, and Condition 31 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

36. **Testing** – If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the appropriate method(s) in accordance with procedures approved by the DEQ.

(9 VAC 5-80-110)

37. **Notifications** – The permittee shall furnish notification to the DEQ, of malfunctions of the affected facility or related air pollution control equipment that may cause excess emissions for more than one hour, by facsimile transmission, telephone or telegraph. Such notification shall be made as soon as practicable but not later than four daytime business hours after the malfunction is discovered. The permittee shall provide a written statement giving all pertinent facts, including the estimated duration of the breakdown, within 14 days of the discovery. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the permittee shall notify the DEQ, in writing.

(9 VAC 5-80-110 and Condition 36 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)



## **Ink-Jet Digital Printing Presses - Emission Units 105 - 109**

38. **Limitations** – VOC emissions from the three Proteus presses with a coating unit (Presses 105, 106, and 107) shall be controlled by the use of inks having VOC content of not more than 0.833 lb/gal, by weight.

(9 VAC 5-80-110 and Condition 5 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

39. **Limitations** – VOC emissions from the three Proteus presses with a coating unit (Presses 105, 106, and 107) shall be controlled by the use of coatings having VOC content of not more than 0.30 lb/gal, by weight.

(9 VAC 5-80-110 and Condition 7 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

40. **Limitations** – The throughput of VOC in the three Proteus presses with a coating unit (Presses 105, 106, and 107) shall not exceed 38.2 tons per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

(9 VAC 5-80-110 and Condition 21 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

41. **Limitations** – Emissions from the operation of the three Proteus presses with a coating unit (Presses 105, 106 and 107) shall not exceed the limits specified below:

VOC	8.72 lbs/hr	38.2 tons/yr
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These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of emission limits. Hourly emissions shall be calculated monthly as a monthly average. Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently-completed calendar month to the individual monthly totals for the preceding 11 months. Compliance with these emission limits may be determined as stated in Conditions 38, 39, and 40.

(9 VAC 5-80-110 and Condition 24 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

42. **Limitations** – VOC emissions from the two Proteus presses without a coating unit (Presses 108 and 109) shall be controlled by the use of inks having VOC content of not more than 0.866 lb/gal, by weight.

(9 VAC 5-80-110 and Condition 6 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

43. **Limitations** – The throughput of VOC in the two Proteus presses without a coating unit (Presses 108 and 109) shall not exceed 30.7 tons per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

(9 VAC 5-80-110 and Condition 22 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

44. **Limitations** – Emissions from the operation of the two Proteus presses without a coating unit (Presses 108 and 109) shall not exceed the limits specified below:

VOC	7.02 lbs/hr	30.7 tons/yr
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These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of emission limits. Hourly emissions shall be calculated monthly as a monthly average. Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months. Compliance with these emission limits may be determined as stated in Conditions 42 and 43.

(9 VAC 5-80-110 and Condition 25 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

45. **Limitations** – VOC emission controls from cleanup, washup, and disposal shall include the following, or equivalent, as a minimum:

- a. VOC shall not be intentionally spilled, discarded to sewers, stored in open containers, or handled in any other manner that would result in evaporation beyond that consistent with air pollution control practices for minimizing emissions.
- b. All VOC containing receptacles shall be closed at all times except during loading and unloading.
- c. VOC emissions from the disposal of fountain solutions, cleaning solutions, and other products containing more than 25 percent by weight shall be reduced by reclamation or incineration.
- d. VOC emissions shall be reduced by storing cleaning solutions and applicators in covered containers or machines with remote reservoirs when not in use.
- e. VOC emissions from the use of blanket wash shall be controlled by limiting the daily average of the VOC portion of the cleaning solution to a composite vapor pressure of 10 mm Hg or less at 68 °F. Composite vapor pressure shall be determined as stated in 9 VAC 5-40-7810 C.

(9 VAC 5-80-110 and Condition 9 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

46. **Limitations** – Visible emissions from the following operations shall not exceed the percentage opacity indicated in the table below, as determined by 40 CFR 60, Appendix A, Method 9:

Process	% Opacity	Exclusions
Proteus presses with a coating unit (Presses 105, 106, and 107)	10	Does not apply during startup, shutdown, and malfunction.
Proteus presses without a coating unit (Presses 108 and 109)	10	None

(9 VAC 5-80-110 and Condition 27 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

47. **Monitoring** – For the purpose of calculating emissions, the VOC content of each coating as supplied shall be based on formulation data as shown on its MSDS. If VOC content is given as a range, the maximum value shall be used.

(9 VAC 5-80-110)

48. **Recordkeeping** – The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the DEQ. These records shall include, but are not limited to:

- a. Monthly and annual VOC throughput (in tons) for the three Proteus presses with a coating unit (Presses 105, 106, and 107).
- b. Monthly and annual VOC emissions (in tons) for the three Proteus presses with a coating unit (Presses 105, 106, and 107).
- c. Monthly and annual VOC throughput (in tons) for the two Proteus presses without a coating unit (Presses 108 and 109) combined.
- d. Monthly and annual VOC emissions (in tons) from the two Proteus presses without a coating unit (Presses 108 and 109) combined.
- e. MSDS, Reference Method 24 test results, or other vendor information showing VOC content, toxic compound content, water content, and solids content for each ink, coating, and cleaning solvent used.
- f. Results of all stack tests and visible emission evaluations.
- g. Scheduled and unscheduled maintenance, and operator training.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five years.

(9 VAC 5-80-110 and Condition 30 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

49. **Testing** – Upon request by the DEQ, the permittee shall conduct visible emission evaluations from the three Proteus presses with a coating unit (Presses 105, 106, and 107)

and the two Proteus presses without a coating unit (Presses 108 and 109) to demonstrate compliance with the visible emission limits contained in this permit. The details of the tests shall be arranged with the DEQ.

(9 VAC 5-80-110, 9 VAC 5-50-30 G, and Condition 29 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

50. **Testing** – The permitted facility shall be constructed so as to allow for emissions testing upon reasonable notice at any time, using appropriate methods. This includes constructing the facility such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and providing stack or duct that is free from cyclonic flow. Sampling ports, safe sampling platforms, and access at the appropriate locations shall be provided when requested.

(9 VAC 5-80-110, 9 VAC 5-50-30 F, and Condition 31 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

51. **Testing** – If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the appropriate method(s) in accordance with procedures approved by the DEQ.

(9 VAC 5-80-110)

**Paper and Dust Handling Systems – Emission Units Pneumatic Trim Scrap (PTS-1 and PTS-2) Systems and Waste Paper Dust (WPD) Collection System**

52. **Limitations** – Particulate matter (PM) emissions generated by the waste paper dust collection system (WPD) shall be controlled by fabric filter. The fabric filter shall be provided with adequate access for inspection and shall be in operation when any binding line is operating.  
(9 VAC 5-80-110 and Condition 10 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)
53. **Limitations** – The throughput of paper to the pneumatic trim scrap system (PTS-1) shall not exceed 38,600 tons per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.  
(9 VAC 5-80-110 and Condition 19 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)
54. **Limitations** – The throughput of paper to the pneumatic trim scrap system (PTS-2) shall not exceed 87,600 tons per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.  
(9 VAC 5-80-110 and Condition 20 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)
55. **Limitations** – PM emissions from the following equipment shall be limited as specified below:

Pneumatic trim scrap system (PTS-1)	15 lbs/hr	19.3 tons/year
Waste paper dust collection (WPD)	0.01 gr/dscf	2.6 tons/year
Pneumatic trim scrap system (PTS-2)	0.05 gr/dscf	9.0 tons/year

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of emission limits. Hourly emissions shall be calculated monthly as a monthly average. Annual emissions shall be calculated monthly as the sum of the previous consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months. Compliance with these emission limits may be determined as stated in Conditions 52, 53, 54, 58, 59 and 60.

(9 VAC 5-80-110 and Condition 26 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

56. **Limitations** – Visible emissions from the following operations shall not exceed the percentage opacity indicated in the table below, as determined by 40 CFR 60, Appendix A, Method 9. The limits shall apply at all times except for noted exclusions:

Process	% Opacity	Exclusions
Pneumatic trim scrap system (PTS-1)	20	Does not apply during startup, shutdown, and malfunction.
Waste paper dust collection (WPD)	5	None
Pneumatic trim scrap system (PTS-2)	10	None

(9 VAC 5-80-110 and Condition 27 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

57. **Monitoring** – Each fabric filter shall be equipped with devices to continuously measure the differential pressure drop across the filter. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when any binding line is operating.

(9 VAC 5-80-110 and Condition 14 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

58. **Monitoring** – The permittee shall determine compliance with the hourly emission limit established in Condition 55 for the pneumatic trim scrap (PTS-1) system by calculating particulate emissions each month as follows:

$$E_{PM} = \frac{S}{H}$$

Where

- $E_{PM}$  = Hourly particulate emissions (pounds)  
 $S$  = Monthly paper shavings (tons) processed in the cyclones  
 (multiplied by the DEQ-approved emission factor of one pound  
 particulate matter per ton paper shavings)  
 $H$  = Hours of operation of the pneumatic trim scrap (PTS-1) system  
 during the month

(9 VAC 5-80-110)

59. **Monitoring** – The permittee shall determine compliance with the annual emission limit for the pneumatic trim scrap (PTS-1) system in Condition 55 by calculating the monthly particulate emissions as follows:

$$E_{PM} = \frac{S}{2000}$$

Where

- $E_{PM}$  = Monthly particulate emissions (tons)

S = Monthly paper shavings (tons) processed in the cyclones  
(multiplied by the DEQ-approved emission factor of one pound  
particulate matter per ton paper shavings)

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month  
period.  
(9 VAC 5-80-110)

60. **Monitoring** – The permittee shall determine compliance with the annual emission limit for the pneumatic trim scrap (PTS-2) system in Condition 55 by calculating the monthly particulate emissions as follows:

$$E_{PM} = \frac{(H)(EF)}{2000}$$

Where

$E_{PM}$  = Monthly particulate emissions (tons)  
H = Hours of operation of the pneumatic trim system (PTS-2)  
EF = DEQ-approved emission factor of 2.0 pounds particulate matter  
per hour of PTS-2 operation

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month  
period.  
(9 VAC 5-80-110)

61. **Monitoring** – The permittee shall perform weekly inspections of the cyclone stacks (C1, C2, C3, C4, and C5) to determine the presence of visible emissions. If during the inspection visible emissions are observed, an EPA Method 9 (40 CFR 60, Appendix A) visible emission evaluation (VEE) shall be conducted by a certified observer. The VEE shall be conducted for a minimum period of six minutes. If any of the observations exceed 20 percent opacity, the observation period shall continue until 60 minutes of observation have been completed. If the sixty-minute VEE indicates a violation of the standard, timely corrective action shall be taken.

(9 VAC 5-80-110)

62. **Compliance Assurance Monitoring (CAM)** – The presence of visible emissions during the weekly baghouse inspections as required by the CAM Plan (Attachment A) or observed from either baghouse at any time shall require further investigation as to the cause of the visible emissions and timely corrective action shall be taken such that the baghouse resumes operation with no visible emissions. The date and time of all such corrective actions shall be recorded.

(9 VAC 5-80-110)

63. **CAM** – The permittee shall monitor, operate, calibrate and maintain the baghouse controlling the waste paper dust collection system (WPD) according to the parameters specified in the Compliance Assurance Monitoring (CAM) Plan for the baghouse, which is included as Attachment A.  
(9 VAC 5-80-110 E and 40 CFR 64.6)
64. **CAM** – The permittee shall conduct the monitoring and fulfill the other obligations specified in 40 CFR 64.7 through 40 CFR 64.9.  
(9 VAC 5-80-110 E and 40 CFR 64.6 (c))
65. **CAM** – At all times, the permittee shall maintain the monitoring equipment, including, but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.  
(9 VAC 5-80-110 E and 40 CFR 64.7 (b))
66. **CAM** – Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the waste paper dust collection system (WPD) is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of compliance assurance monitoring, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The permittee shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by inadequate maintenance or improper operation are not malfunctions.  
(9 VAC 5-80-110 E and 40 CFR 64.7 (c))
67. **CAM** – Upon detecting an excursion or exceedance, the permittee shall restore operation of the waste paper dust collection system (WPD) (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup and shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator, designated condition, or below the applicable emission limitation or standard, as applicable.  
(9 VAC 5-80-110 E and 40 CFR 64.7 (d)(1))
68. **CAM** – Determination that acceptable procedures were used in response to an excursion or exceedance will be based on information available, which may include but is not limited to,



monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

(9 VAC 5-80-110 E and 40 CFR 64.7(d)(2))

69. **CAM** – If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the DEQ and, if necessary, submit a proposed modification to this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

(9 VAC 5-80-110 E and 40 CFR 64.7(e))

70. **CAM** – The permittee shall develop a Quality Improvement Plan (QIP) for the WPD baghouse(s) according to 40 CFR 64.8 if more than three excursions from the indicator range specified in the Compliance Assurance Monitoring (CAM) Plan (Attachment A) occur within a semi-annual period. Semi-annual periods are as indicated by reporting requirements in Condition 102.

(9 VAC 5-80-110 and 40 CFR 64.8)

71. **Recordkeeping** – The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the DEQ. These records shall include, but are not limited to:

- a. Weekly baghouse and cyclone inspection results including:

- (1) The date, time, and name of person performing each inspection;
- (2) The pressure drop across the fabric filters;
- (3) Whether or not there were visible emissions;
- (4) Results of EPA Method 9 (40 CFR 60, Appendix A) testing, if applicable; and
- (5) Any maintenance or repairs performed as a result of these inspections, if applicable.

- b. Annual fabric filter inspection results including:

- (1) The date, time, and name of person performing each inspection;
- (2) A list of items inspected; and
- (3) Any maintenance or repairs performed as a result of these inspections, if applicable.

- c. Monthly and annual throughput of paper to the pneumatic trim scrap system (PTS-1 and PTS-2).
- d. Hourly, monthly, and annual PM emissions from the pneumatic trim scrap systems (PTS-1 and PTS-2) and waste paper dust collection system (WPD). Hourly emissions shall be calculated each month as a monthly average. Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period.
- e. Hours of operation of the pneumatic trim scrap systems (PTS-1 and PTS-2), calculated monthly.
- f. Results of all stack tests and visible emission evaluations.
- g. Scheduled and unscheduled maintenance, and operator training.
- h. Documentation of monitoring required by the CAM Plan (Attachment A), to include:
  - (1) Log showing results of weekly observations of differential pressure across each baghouse;
  - (2) Log showing results of weekly observations of each baghouse exhaust, including time and date of observation, facility operating conditions, whether a Method 9 test was conducted and the results of the Method 9 test, if applicable;
  - (3) Results of annual internal inspections of each baghouse;
  - (4) Records of repairs or replacements undertaken as a result of annual internal baghouse inspections;
  - (5) Number of excursions in each semi-annual period;
  - (6) Corrective actions taken in response to excursions; and
  - (7) If applicable, any written QIP required by Condition 70 and 40 CFR 64.8 and any activities undertaken to implement a QIP.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five years.

(9 VAC 5-80-110 and Condition 30 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

72. **Testing** – The permitted facility shall be constructed so as to allow for emissions testing upon reasonable notice at any time, using appropriate methods. This includes constructing the facility such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and providing stack or duct that is free from cyclonic flow. Sampling ports, safe sampling platforms, and access at the appropriate locations shall be provided when requested.

(9 VAC 5-50-30, 9 VAC 5-80-110 and Condition 31 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

73. **Testing** – If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the appropriate method(s) in accordance with procedures approved by the DEQ.  
(9 VAC 5-80-110)
74. **Reporting** – In addition to the reports required by Condition 102, written reports containing the following information pertaining to the CAM Plan for each WPD baghouse shall be submitted to the DEQ, no later than **March 1** and **September 1** of each calendar year. This report must be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:
- a. Summary information on the number, duration, and cause (including unknown cause, if applicable) of excursions and the corrective actions taken;
  - b. Summary information on the number, duration, and cause (including unknown cause, if applicable) of monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks);
  - c. A description of actions taken to implement a QIP during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the permittee shall include in the next summary report documentation that the plan has been completed and reduced the likelihood of similar levels of excursions.

The information listed above may be included in the reports required by Condition 102.  
(9 VAC 5-80-110 and 40 CFR 64.9(a)(2))

## Adhesive Operations - Emission Unit ADH

75. **Limitations** – VOC emissions controls from cleanup, washup, and disposal shall include the following, or equivalent, as a minimum:

- a. VOC shall not be intentionally spilled, discarded to sewers, stored in open containers, or handled in any other manner that would result in evaporation beyond that consistent with air pollution control practices for minimizing emissions.
- b. All VOC containing receptacles shall be closed at all times except during loading and unloading.
- c. VOC emissions from the disposal of adhesives and other products containing more than 25 percent by weight shall be reduced by reclamation or incineration.
- d. VOC emissions shall be reduced by storing cleaning solutions and applicators in covered containers or machines with remote reservoirs when not in use.

(9 VAC 5-80-110 and Condition 9 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

76. **Limitations** – The throughput of VOC in all materials for adhesive operations (ADH) shall not exceed 12.5 tons per year. Throughput shall be calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

(9 VAC 5-80-110 and Condition 17 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

77. **Limitations** – VOC emissions from the operation and cleaning of adhesive application equipment shall be limited to 12.5 tons per year. Annual emissions shall be calculated monthly as the sum of the previous consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently-completed calendar month to the individual monthly totals for the preceding 11 months.

(9 VAC 5-80-110 and Condition 23 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

78. **Limitations** – Visible emissions from adhesive operations (ADH) shall not exceed five percent opacity as determined by 40 CFR 60, Appendix A, Method 9.

(9 VAC 5-80-110 and Condition 27 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

79. **Monitoring** – The permittee shall determine compliance with the emission limits established in Condition 77 by calculating the monthly VOC emission as follows:

$$E_{VOC} = \sum_{i=1}^n (ADH_{VOC,i} + CS_{VOC,i})$$

Where

$E_{VOC}$  = VOC emissions in tons per month  
 $ADH_{VOC}$  = Monthly throughput of VOC contained in adhesives, as applied (tons)  
 $CS_{VOC}$  = Monthly throughput of VOC contained in cleaning solvent (tons)  
 $i$  = Each adhesive or solvent used

(9 VAC 5-80-110)

80. **Recordkeeping** – The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the DEQ. These records shall include, but are not limited to:

- a. Monthly and annual material balance of VOC in adhesive operations (ADH), to include throughput of VOC contained in adhesives and cleaning solvents, calculated monthly as the sum of each consecutive 12-month period, to include:
- b. Annual amount (in tons) of VOC disposed of offsite.
- c. Monthly and annual VOC emissions (in tons) from adhesive operations (ADH). Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period.
- d. MSDS, Reference Method 24 test results, or other vendor information showing VOC content, toxic compound content, water content, and solids content for each adhesive used.
- e. Results of all stack tests and visible emission evaluations.
- f. Scheduled and unscheduled maintenance, and operator training.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five years.

(9 VAC 5-80-110 and Condition 30 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

81. **Testing** – The permitted facility shall be constructed so as to allow for emissions testing upon reasonable notice at any time, using appropriate methods. This includes constructing the facility such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and providing stack or duct that is free from cyclonic flow. Sampling ports shall be provided when requested at the appropriate locations and safe sampling platforms and access shall be provided.

(9 VAC 5-50-30, 9 VAC 5-80-110 and Condition 31 of 1/5/12 Permit, as amended 8/5/14 and 3/26/15)

82. **Testing** – If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the appropriate method(s) in accordance with procedures approved by the DEQ.

(9 VAC 5-80-110)

## **Facility-Wide Conditions – Emission Units EG-1 and EG-2**

**83. Limitations** – By May 3, 2013, the natural gas-fired engines for the emergency generators (EG-1 and EG-2) shall meet all requirements from 40 CFR 63, Subpart ZZZZ (NESHAP for Stationary Reciprocating Internal Combustion Engines (RICE)), that are applicable to existing emergency stationary spark ignition (SI) RICE. This includes, but is not limited to, the following maintenance requirements specified in sections 6.a through 6.c of Table 2c to Subpart ZZZZ:

- a. Change oil and filter every 500 hours of operation or annually, whichever comes first;
- b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first; and
- c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first.

(9 VAC 5-80-110, 9 VAC 5-60-90, 9 VAC 5-60-100, and 40 CFR 63.6602)

**84. Limitations** – For each natural gas-fired engine for the emergency generators (EG-1 and EG-2), the permittee shall minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the requirements in Condition 83 apply.

(9 VAC 5-80-110, 9 VAC 5-60-90, 9 VAC 5-60-100, and 40 CFR 63.6602 and 40 CFR 63.6625(h))

**85. Limitations** – By May 3, 2013, the permittee shall develop a maintenance plan for the natural gas-fired engines for the emergency generators (EG-1 and EG-2) that provides to the extent practicable for the maintenance and operation of each engine in a manner consistent with good air pollution control practice for minimizing emissions.

(9 VAC 5-80-110, 9 VAC 5-60-90, 9 VAC 5-60-100, 40 CFR 63.6625(e), and 40 CFR 63.6640 (a))

**86. Limitations** – For each natural gas-fired engine for the emergency generators (EG-1 and EG-2), the permittee shall install a non-resettable hour meter if one is not already installed.

(9 VAC 5-80-110, 9 VAC 5-60-90, 9 VAC 5-60-100, and 40 CFR 63.6625(f))

**87. Limitations** – For each natural gas-fired engine for the emergency generators (EG-1 and EG-2), the permittee shall operate the engines according to the following requirements:

- a. No time limit on the use of the engines in emergency situations.
- b. The engines may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of the engines is limited to 100 hours per year.
- c. The engines may be operated up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(9 VAC 5-80-110, 9 VAC 5-60-90, 9 VAC 5-60-100, and 40 CFR 63.6640(f))

**88. Monitoring and Recordkeeping** – The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with DEQ. These records shall include, but are not limited to:

- a. By May 3, 2013, records of the maintenance conducted on the natural gas-fired engines for the emergency generators (EG-1 and EG-2) in order to demonstrate that each engine is operated and maintained according to the maintenance plan required by Condition 85.
- b. By May 3, 2013, records of the hours of operation of the natural gas-fired engines for the emergency generators (EG-1 and EG-2) that are recorded on a non-resettable hour meter. The permittee must document how many hours are spent for emergency operation, including what classified the operation as emergency, and how many hours are spent for non-emergency operation. If either engine is used for demand response operation, the permittee must keep records of the notification of the emergency situation, and the time each engine was operated as part of demand response.

These records shall be available on site for inspection by DEQ and shall be current for the most recent five years.

(9 VAC 5-80-110 and 40 CFR 63.6655(e) and (f))

**89. Reporting** – The permittee shall report each instance when the requirements of Condition 83 were not met. Each instance is a deviation and must be reported in the semiannual monitoring report according to Condition 102.

(9 VAC 5-80-110, 40 CFR 63.6640(b), and 40 CFR 63.6650(f))



90. **Testing** – If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the appropriate method(s) in accordance with procedures approved by DEQ.  
(9 VAC 5-80-110)

## Insignificant Emission Units

91. **Insignificant Emission Units** - The following emission units at the facility are identified in the application as insignificant emission units under 9 VAC 5-80-720.

<b>Emission Unit No.</b>	<b>Emission Unit Description</b>	<b>Citation</b>	<b>Pollutant(s) Emitted (5-80-720B)</b>	<b>Rated Capacity (5-80-720C)</b>
ADH-TKS	Water-based adhesive tanks	9 VAC 5-80-720B	VOC	-
BAT	Battery chargers	9 VAC 5-80-720B	PM, acid vapors	-
BH	Binder heaters (combustion)	9 VAC 5-80-720C	-	0.1 MMBtu/hr
CHL	Water chillers	9 VAC 5-80-720B	CFC	-
FP	Fire pump (combustion)	9 VAC 5-80-720C	-	1.6 MMBtu/hr
DEV	Plate & film developers	9 VAC 5-80-720B	VOC	-
FLM	Manual film cleaning	9 VAC 5-80-720B	VOC	-
HWB	Hot water boilers (combustion)	9 VAC 5-80-720C	-	6.7 MMBtu/hr
IJP	Ink jet printers	9 VAC 5-80-720B	VOC	-
PV	Propane vaporizer (combustion)	9 VAC 5-80-720C	-	< 10 MMBtu/hr
PW	Parts washers	9 VAC 5-80-720B	VOC	-
PST	Propane storage tanks	9 VAC 5-80-720B	VOC	-
SB	Steam boilers (combustion)	9 VAC 5-80-720C	-	2.2 MMBtu/hr
UST	Underground storage tanks	9 VAC 5-80-720B	VOC	-
WH	Water heaters (combustion)	9 VAC 5-80-720C	-	0.8 MMBtu/hr
WST	Waste storage tank	9 VAC 5-80-720C	-	3,000 gallons

These emission units are presumed to be in compliance with all requirements of the federal Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping, or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

## Permit Shield & Inapplicable Requirements

92. **Permit Shield & Inapplicable Requirements** - Compliance with the provisions of this permit shall be deemed compliance with all applicable requirements in effect as of the permit issuance date as identified in this permit. This permit shield covers only those applicable requirements covered by terms and conditions in this permit and the following requirements which have been specifically identified as being not applicable to this permitted facility:

Citation	Title of Citation	Description of applicability
9 VAC 5-40-4310 <i>et seq.</i>	Emission Standards for Paper and Fabric Coating Application Systems (Rule 4-31)	Applies only in VOC emissions control (nonattainment) areas. R. R. Donnelley & Sons Company is located in an attainment area.
9 VAC 5-40-5060 <i>et seq.</i>	Flexographic, Packaging Rotogravure, and Publication Rotogravure Printing Lines (Rule 4-36)	Does not apply to lithographic printing.
9 VAC 5-40-7800 <i>et seq.</i>	Emission Standards for Lithographic Printing Processes (Rule 4-53)	Applies only in designated VOC emissions control (nonattainment) areas. R. R. Donnelley & Sons Company is located in an attainment area.
40 CFR 63 Subpart KK	National Emission Standards for Hazardous Air Pollutants from the Printing and Publishing Industry	Does not apply to lithographic printing.
40 CFR 60 Subpart Kb	New Source Performance Standards for Volatile Organic Liquid Storage Vessels	All storage tanks at the R. R. Donnelley Harrisonburg facility have capacities below the 75 m <sup>3</sup> (19,812.9 gallon) applicability threshold of Subpart Kb.
40 CFR 63 Subpart EEEE	National Emission Standards for Hazardous Air Pollutants from Organic Liquids Distribution	All storage tanks at the R. R. Donnelley Harrisonburg facility have capacities below the 5,000-gallon applicability threshold of Subpart EEEE. Also, transfer operations standards apply to facilities that transfer organic liquids out of the facility; the R. R. Donnelley Harrisonburg facility does not transfer solvents outside of the site.

Citation	Title of Citation	Description of applicability
40 CFR 63 Subpart JJJJ	National Emission Standards for Hazardous Air Pollutants from Paper and Other Web Coating	The R. R. Donnelley Harrisonburg facility has no equipment that meets the definition of these processes.

Nothing in this permit shield shall alter the provisions of § 303 of the federal Clean Air Act, including the authority of the administrator under that section, the liability of the owner for any violation of applicable requirements prior to or at the time of permit issuance, or the ability to obtain information by (i) the administrator pursuant to § 114 of the federal Clean Air Act, (ii) the Board pursuant to § 10.1-1314 or § 10.1-1315 of the Virginia Air Pollution Control Law or (iii) the Department pursuant to § 10.1-1307.3 of the Virginia Air Pollution Control Law.  
(9 VAC 5-80-140)

## General Conditions

93. **Federal Enforceability** – All terms and conditions in this permit are enforceable by the administrator and citizens under the federal Clean Air Act, except those that have been designated as only state-enforceable.  
(9 VAC 5-80-110 N)
94. **Permit Expiration** – This permit has a fixed term of five years. The expiration date shall be the date five years from the date of issuance. Unless the owner submits a timely and complete application for renewal to the Department consistent with the requirements of 9 VAC 5-80-80, the right of the facility to operate shall be terminated upon permit expiration.  
(9 VAC 5-80-80 B, C and F, 9 VAC 5-80-110 D and 9 VAC 5-80-170 B)
95. **Permit Expiration** – The owner shall submit an application for renewal at least six months but no earlier than eighteen months prior to the date of permit expiration.  
(9 VAC 5-80-80 B, C and F, 9 VAC 5-80-110 D and 9 VAC 5-80-170 B)
96. **Permit Expiration** – If an applicant submits a timely and complete application for an initial permit or renewal under this section, the failure of the source to have a permit or the operation of the source without a permit shall not be a violation of Article 1, Part II of 9 VAC 5 Chapter 80, until the Board takes final action on the application under 9 VAC 5-80-150.  
(9 VAC 5-80-80 B, C and F, 9 VAC 5-80-110 D and 9 VAC 5-80-170 B)
97. **Permit Expiration** – No source shall operate after the time that it is required to submit a timely and complete application under subsections C and D of 9 VAC 5-80-80 for a renewal permit, except in compliance with a permit issued under Article 1, Part II of 9 VAC 5 Chapter 80.  
(9 VAC 5-80-80 B, C and F, 9 VAC 5-80-110 D and 9 VAC 5-80-170 B)
98. **Permit Expiration** – If an applicant submits a timely and complete application under section 9 VAC 5-80-80 for a permit renewal but the Board fails to issue or deny the renewal permit before the end of the term of the previous permit, (i) the previous permit shall not expire until the renewal permit has been issued or denied and (ii) all the terms and conditions of the previous permit, including any permit shield granted pursuant to 9 VAC 5-80-140, shall remain in effect from the date the application is determined to be complete until the renewal permit is issued or denied.  
(9 VAC 5-80-80 B, C and F, 9 VAC 5-80-110 D and 9 VAC 5-80-170 B)
99. **Permit Expiration** – The protection under subsections F 1 and F 5 (ii) of section 9 VAC 5-80-80 F shall cease to apply if, subsequent to the completeness determination made pursuant to section 9 VAC 5-80-80 D, the applicant fails to submit by the deadline specified in writing by the Board any additional information identified as being needed to process the application.  
(9 VAC 5-80-80 B, C and F, 9 VAC 5-80-110 D and 9 VAC 5-80-170 B)

**100. Recordkeeping and Reporting** – All records of monitoring information maintained to demonstrate compliance with the terms and conditions of this permit shall contain, where applicable, the following:

- a. The date, place as defined in the permit, and time of sampling or measurements.
- b. The date(s) analyses were performed.
- c. The company or entity that performed the analyses.
- d. The analytical techniques or methods used.
- e. The results of such analyses.
- f. The operating conditions existing at the time of sampling or measurement.

(9 VAC 5-80-110 F)

**101. Recordkeeping and Reporting** – Records of all monitoring data and support information shall be retained for at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

(9 VAC 5-80-110 F)

**102. Recordkeeping and Reporting** – The permittee shall submit the results of monitoring contained in any applicable requirement to DEQ no later than **March 1** and **September 1** of each calendar year. This report must be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:

- a. The time period included in the report. The time periods to be addressed are January 1 to June 30 and July 1 to December 31.
- b. All deviations from permit requirements. For purposes of this permit, deviations include, but are not limited to:
  - (1) Exceedance of emissions limitations or operational restrictions;
  - (2) Excursions from control device operating parameter requirements, as documented by continuous emission monitoring, periodic monitoring, or Compliance Assurance Monitoring (CAM) which indicates an exceedance of emission limitations or operational restrictions; or
  - (3) Failure to meet monitoring, recordkeeping, or reporting requirements contained in this permit.

- c. If there were no deviations from permit conditions during the time period, the permittee shall include a statement in the report that “no deviations from permit requirements occurred during this semi-annual reporting period.”

(9 VAC 5-80-110 F)

**103. Annual Compliance Certification** – Exclusive of any reporting required to assure compliance with the terms and conditions of this permit or as part of a schedule of compliance contained in this permit, the permittee shall submit to EPA and DEQ no later than **March 1** each calendar year a certification of compliance with all terms and conditions of this permit including emission limitation standards or work practices for the period ending December 31. The compliance certification shall comply with such additional requirements that may be specified pursuant to § 114(a)(3) and § 504(b) of the federal Clean Air Act. The permittee shall maintain a copy of the certification for five (5) years after submittal of the certification. This certification shall be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:

- a. The time period included in the certification. The time period to be addressed is January 1 to December 31.
- b. The identification of each term or condition of the permit that is the basis of the certification.
- c. The compliance status.
- d. Whether compliance was continuous or intermittent, and if not continuous, documentation of each incident of non-compliance.
- e. Consistent with subsection 9 VAC 5-80-110 E, the method or methods used for determining the compliance status of the source at the time of certification and over the reporting period.
- f. Such other facts as the permit may require to determine the compliance status of the source.

One copy of the annual compliance certification shall be submitted to EPA in electronic format only. The certification document should be sent to the following electronic mailing address:

[R3\\_APD\\_Permits@epa.gov](mailto:R3_APD_Permits@epa.gov)

(9 VAC 5-80-110 K.5)

**104. Permit Deviation Reporting** – The permittee shall notify the DEQ, within four daytime business hours after discovery of any deviations from permit requirements which may cause excess emissions for more than one hour, including those attributable to upset conditions as

may be defined in this permit. In addition, within 14 days of the discovery, the permittee shall provide a written statement explaining the problem, any corrective actions or preventive measures taken, and the estimated duration of the permit deviation. The occurrence should also be reported in the next semi-annual compliance monitoring report pursuant to General Condition 102 of this permit.

(9 VAC 5-80-110 F.2 and 9 VAC 5-80-250)

105. **Failure/Malfunction Reporting** – In the event that any affected facility or related air pollution control equipment fails or malfunctions in such a manner that may cause excess emissions for more than one hour, the owner shall, as soon as practicable but no later than four daytime business hours after the malfunction is discovered, notify the DEQ by facsimile transmission, telephone or telegraph of such failure or malfunction and shall within 14 days of discovery provide a written statement giving all pertinent facts, including the estimated duration of the breakdown. Owners subject to the requirements of 9 VAC 5-40-50 C and 9 VAC 5-50-50 C are not required to provide the written statement prescribed in this paragraph for facilities subject to the monitoring requirements of 9 VAC 5-40-40 and 9 VAC 5-50-40. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the owner shall notify the DEQ.

(9 VAC 5-20-180 C)

106. **Severability** – The terms of this permit are severable. If any condition, requirement or portion of the permit is held invalid or inapplicable under any circumstance, such invalidity or inapplicability shall not affect or impair the remaining conditions, requirements, or portions of the permit.

(9 VAC 5-80-110 G.1)

107. **Duty to Comply** – The permittee shall comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the federal Clean Air Act or the Virginia Air Pollution Control Law or both and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or, for denial of a permit renewal application.

(9 VAC 5-80-110 G.2)

108. **Need to Halt or Reduce Activity not a Defense** – It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(9 VAC 5-80-110 G.3)



109. **Permit Modification** – A physical change in, or change in the method of operation of, this stationary source may be subject to permitting under State Regulations 9 VAC 5-80-50, 9 VAC 5-80-1100, 9 VAC 5-80-1605, or 9 VAC 5-80-2000 and may require a permit modification and/or revisions except as may be authorized in any approved alternative operating scenarios.  
(9 VAC 5-80-190 and 9 VAC 5-80-260)
110. **Property Rights** –The permit does not convey any property rights of any sort, or any exclusive privilege.  
(9 VAC 5-80-110 G.5)
111. **Duty to Submit Information** – The permittee shall furnish to the Board, within a reasonable time, any information that the Board may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Board copies of records required to be kept by the permit and, for information claimed to be confidential, the permittee shall furnish such records to the Board along with a claim of confidentiality.  
(9 VAC 5-80-110 G.6)
112. **Duty to Submit Information** – Any document (including reports) required in a permit condition to be submitted to the Board shall contain a certification by a responsible official that meets the requirements of 9 VAC 5-80-80 G.  
(9 VAC 5-80-110 K.1)
113. **Duty to Pay Permit Fees** – The owner of any source for which a permit under 9 VAC 5-80-50 through 9 VAC 5-80-300 was issued shall pay permit fees consistent with the requirements of 9 VAC 5-80-310 through 9 VAC 5-80-350. The actual emissions covered by the permit program fees for the preceding year shall be calculated by the owner and submitted to the Department by April 15 of each year. The calculations and final amount of emissions are subject to verification and final determination by the Department.  
(9 VAC 5-80-110 H and 9 VAC 5-80-340 C)

**114. Fugitive Dust Emission Standards** – During the operation of a stationary source or any other building, structure, facility or installation, no owner or other person shall cause or permit any materials or property to be handled, transported, stored, used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions may include, but are not limited, to the following:

- a. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land;
- b. Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which may create airborne dust; the paving of roadways and the maintaining of them in a clean condition;
- c. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty material. Adequate containment methods shall be employed during sandblasting or other similar operations;
- d. Open equipment for conveying or transporting material likely to create objectionable air pollution when airborne shall be covered or treated in an equally effective manner at all times when in motion; and
- e. The prompt removal of spilled or tracked dirt or other materials from paved streets and of dried sediments resulting from soil erosion.

(9 VAC 5-50-90)

**115. Startup, Shutdown, and Malfunction** – At all times, including periods of startup, shutdown, soot blowing, and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Board, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

(9 VAC 5-50-20)

**116. Alternative Operating Scenarios** – Contemporaneously with making a change between reasonably anticipated operating scenarios identified in this permit, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating. The permit shield described in 9 VAC 5-80-140 shall extend to all terms and conditions under each such operating scenario. The terms and conditions of each such alternative scenario shall meet all applicable requirements including the requirements of 9 VAC 5 Chapter 80 Article 1.

(9 VAC 5-80-110 J)

**117. Inspection and Entry Requirements** – The permittee shall allow DEQ, upon presentation of credentials and other documents as may be required by law, to perform the following:

- a. Enter upon the premises where the source is located or emissions-related activity is conducted, or where records must be kept under the terms and conditions of the permit.
- b. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of the permit.
- c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit.
- d. Sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

(9 VAC 5-80-110 K.2)

**118. Reopening For Cause** – The permit shall be reopened by the Board if additional federal requirements become applicable to a major source with a remaining permit term of three years or more. Such a reopening shall be completed no later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 9 VAC 5-80-80 F.

- a. The permit shall be reopened if the Board or the administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
- b. The permit shall be reopened if the administrator or the Board determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
- c. The permit shall not be reopened by the Board if additional applicable state requirements become applicable to a major source prior to the expiration date established under 9 VAC 5-80-110 D.

(9 VAC 5-80-110 L)

119. **Permit Availability** – Within five days after receipt of the issued permit, the permittee shall maintain the permit on the premises for which the permit has been issued and shall make the permit immediately available to DEQ upon request.  
(9 VAC 5-80-150 E)
120. **Transfer of Permit**– No person shall transfer a permit from one location to another, unless authorized under 9 VAC 5-80-130, or from one piece of equipment to another.  
(9 VAC 5-80-160)
121. **Transfer of Permit**– In the case of a transfer of ownership of a stationary source, the new owner shall comply with any current permit issued to the previous owner. The new owner shall notify the Board of the change in ownership within 30 days of the transfer and shall comply with the requirements of 9 VAC 5-80-200.  
(9 VAC 5-80-160)
122. **Transfer of Permit**– In the case of a name change of a stationary source, the owner shall comply with any current permit issued under the previous source name. The owner shall notify the Board of the change in source name within 30 days of the name change and shall comply with the requirements of 9 VAC 5-80-200.  
(9 VAC 5-80-160)
123. **Malfunction as an Affirmative Defense** – A malfunction constitutes an affirmative defense to an action brought for noncompliance with technology-based emission limitations if the requirements of Condition 124 are met.  
(9 VAC 5-80-250)
124. **Malfunction as an Affirmative Defense** – The affirmative defense of malfunction shall be demonstrated by the permittee through properly signed, contemporaneous operating logs, or other relevant evidence that show the following:
- a. A malfunction occurred and the permittee can identify the cause or causes of the malfunction.
  - b. The permitted facility was at the time being properly operated.
  - c. During the period of the malfunction the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit.
  - d. The permittee notified the Board of the malfunction within two working days following the time when the emission limitations were exceeded due to the malfunction. This notification shall include a description of the malfunction, any steps taken to mitigate emissions, and corrective actions taken. The notification may be delivered either orally or in writing. The notification may be delivered by electronic mail, facsimile transmission, telephone, or any other method that allows the permittee to comply with the

deadline. This notification fulfills the requirements of 9 VAC 5-80-110 F.2.b to report promptly deviations from permit requirements. This notification does not release the permittee from the malfunction reporting requirement under 9 VAC 5-20-180 C.

(9 VAC 5-80-250)

125. **Malfunction as an Affirmative Defense** – In any enforcement proceeding, the permittee seeking to establish the occurrence of a malfunction shall have the burden of proof.  
(9 VAC 5-80-250)

126. **Malfunction as an Affirmative Defense** – The provisions of this section are in addition to any malfunction, emergency or upset provision contained in any applicable requirement.  
(9 VAC 5-80-250)

127. **Permit Revocation or Termination for Cause** – A permit may be revoked or terminated prior to its expiration date if the owner knowingly makes material misstatements in the permit application or any amendments thereto or if the permittee violates, fails, neglects or refuses to comply with the terms or conditions of the permit, any applicable requirements, or the applicable provisions of 9 VAC 5 Chapter 80 Article 1. The Board may suspend, under such conditions and for such period of time as the Board may prescribe, any permit for any grounds for revocation or termination or for any other violations of these regulations.  
(9 VAC 5-80-190 C and 9 VAC 5-80-260)

128. **Duty to Supplement or Correct Application** – Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrections. An applicant shall also provide additional information as necessary to address any requirements that become applicable to the source after the date a complete application was filed but prior to release of a draft permit.  
(9 VAC 5-80-80 E)

129. **Stratospheric Ozone Protection** – If the permittee handles or emits one or more Class I or II substances subject to a standard promulgated under or established by Title VI (Stratospheric Ozone Protection) of the federal Clean Air Act, the permittee shall comply with all applicable sections of 40 CFR Part 82, Subparts A to F.  
(40 CFR Part 82, Subparts A - F)

130. **Asbestos Requirements** – The permittee shall comply with the requirements of National Emissions Standards for Hazardous Air Pollutants (40 CFR 61) Subpart M, National Emission Standards for Asbestos as it applies to the following: Standards for Demolition and Renovation (40 CFR 61.145), Standards for Insulating Materials (40 CFR 61.148), and Standards for Waste Disposal (40 CFR 61.150).  
(9 VAC 5-60-70 and 9 VAC 5-80-110 A.1)

131. **Accidental Release Prevention** – If the permittee has more, or will have more than a threshold quantity of a regulated substance in a process, as determined under 40 CFR 68.115, the permittee shall comply with the requirements of 40 CFR Part 68.  
(40 CFR Part 68)
132. **Changes to Permits for Emissions Trading** – No permit revision shall be required under any federally approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit.  
(9 VAC 5-80-110 I)
133. **Emissions Trading** – Where the trading of emissions increases and decreases within the permitted facility is to occur within the context of this permit and to the extent that the regulations provide for trading such increases and decreases without a case-by-case approval of each emissions trade:
- a. All terms and conditions required under 9 VAC 5-80-110, except subsection N, shall be included to determine compliance.
  - b. The permit shield described in 9 VAC 5-80-140 shall extend to all terms and conditions that allow such increases and decreases in emissions.
  - c. The owner shall meet all applicable requirements including the requirements of 9 VAC 5-80-50 through 9 VAC 5-80-300.

(9 VAC 5-80-110 I)

**Fabric Filter Compliance Assurance Monitoring Plan  
 (Each baghouse for Waste Paper Dust (WPD) collection system)**

Indicator	Indicator 1	Indicator 2	Indicator 3
	Baghouse differential pressure	Visible emissions	Work practice: inspection
<b>Measurement approach</b>	Observe and record the operating differential pressure of each baghouse system, at least once per week.	At a minimum of once per week, visible emission observations shall be conducted at each baghouse exhaust point and the results (presence or absence of visible emissions) shall be recorded. If visible emissions are observed, a Method 9 VEE in accordance with 40 CFR 60, Appendix A may be conducted optionally to determine if an excursion occurs. Results shall be recorded upon completion of each Method 9. If visible emissions are observed and a Method 9 VEE is not conducted, then an excursion has occurred. If visible emissions inspections conducted during 12 consecutive weeks show no visible emissions, the permittee may reduce the monitoring frequency to once per month for that stack. Any time the monthly visible emissions inspections show visible emissions, or when requested by DEQ, the monitoring frequency shall be increased to once per week for that stack	Annual ductwork and internal bag filter inspections by a qualified employee to verify structural integrity. Results recorded upon completion of each inspection.

<b>Indicator range</b>	2.5 ± 2.0 inches of water column (operation outside of this pressure range constitutes an excursion)	An excursion is defined as an average opacity greater than 5% during one six-minute period in any one hour.	Internal components (including each individual bag) of and all ductwork leading to each baghouse shall be repaired or replaced as needed (failure to perform annual internal inspection or to repair or replace components as needed in a timely manner constitutes an excursion)
<b>Quality Improvement Plan (QIP) Threshold</b>	No more than three excursions outside of the indicator range in any semi-annual reporting period.	No more than three excursions outside of the indicator range in any semi-annual reporting period.	N/A
<b><u>Performance criteria:</u></b>			
<b>Data Representativeness</b>	The monitoring system for each baghouse consists of a differential pressure gauge that compares the pressures in the inlet and outlet ducts of each baghouse. Accuracy: ± 5% Range: 0-15 (BH1); 0-10 (BH2)	Observations are being made at the emission point of each baghouse.	Each fabric filter bag, unit housing, associated internal components and all ductwork leading from the binding lines to each baghouse shall be inspected for signs of wear, leakage, or other deterioration that may affect the efficient operation of the unit.
<b>Verification of operational status</b>	N/A	Records that indicate time, facility operational status and results of each observation shall be maintained on site.	Inspection records
<b>QA/QC practices and criteria</b>	Validation of pressure gauge conducted annually by comparing gauge reading to calibrated meter or by calibrating using pressure standard or according to manufacturer's instructions.	Qualified personnel to perform observations. Certified Method 9 observer shall perform Method 9 VEE.	Qualified personnel familiar with the operating principles of fabric filtration shall perform the inspection and maintenance.



<b>Monitoring frequency</b>	Pressure drop shall be measured continuously and observed at least weekly.	A minimum of once per week observation, unless no emissions observed for 12 consecutive weeks. Monitoring frequency then becomes once per month until visible emissions are observed.	Annually
<b>Data collection procedures</b>	Pressure drop shall be monitored and displayed continuously. Results of weekly observations shall be recorded in a log.	A log shall be kept showing the time, facility operational status and results of each observation and Method 9 VEE.	A record shall be kept of all inspections, observations, and any maintenance or corrective action taken.
<b>Averaging period</b>	N/A	N/A	N/A